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GRENACHER'S RESEARCHES ON THE EYES OF ARTHROPODS.[1]—This is the most elaborate and detailed work on the eyes of insects and crustacea which has yet appeared. For the first time we have very full information given us as to the nature of the simple eyes (ocelli or stemmata) of larval insects and of Arachnida, and we are here taught that they are much more complicated than was before suspected; so that they are not exactly a simple, elementary eye, as it were, a primitive form of eye, but, as the author claims, the simple and compound eyes stand in the relation of sisters, rather than of child and parent.

A long chapter on the physiology of the compound eyes lends additional value to the anatomical portion. The author concludes that perception in the compound eye of Arthropods is effected in accordance with the theory first proposed by Müller, and that this applies to the compound eye of the horse-shoe crab (Limulus) although morphologically the eye of this animal is totally unlike that of any insect or crustacean. Grenacher does not describe the eyes of the myriopods, though he observes that the compound eyes of Cermatia are entirely unlike those of the spiders or insects, and that they seem to show some analogy to those of Limulus. The illustrations are abundant and simply exquisite, and worthy of the text.

DALL'S METEOROLOGY OF THE PACIFIC COAST PILOT.[2]—This is the results of several years' examination by Mr. Dall into the meteorological features of Alaska, together with the data collected from the publications of learned societies and from unpublished material in the archives of the U. S. Coast Survey, the Medical Department of the U. S. Army, and the U. S. Signal Service, as well as numerous contributions from private sources. The whole appears to be a most useful and accurate account of the climatic features of Alaska. While the attempt has been made to elucidate the general climate of this region, the local peculiarities relating especially to commerce, navigation and agriculture have been made sufficiently prominent. To geographers and Arctic explorers this volume will especially commend itself, as well as to students of the geographical distribution of plants and animals. To the latter the charts will prove useful; that showing the distribution of plants and animals, and the following one (XXVIII) showing, with the summer sea-surface temperature, the limits of trees, are new and fresh contributions to our knowledge of the life of this and the neighboring subarctic regions.

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[1] *Untersuchungen über das Sehorgan der Arthropoden, insbesondere der Spinnen, Insecten und Crustaceen.* Von H. GRENACHER. 11 lith. plates. Göttingen, 1879. 4°, pp. 188. 45 marks.

[2] *U. S. Coast and Geodetic Survey.* C. P. PATTERSON, Superintendent Pacific Coast Pilot, Coasts and Islands of Alaska. Second Series. *Meteorology.* By W. H. DALL, Acting Assistant U. S. Coast Survey. Washington, 1879. 4°, pp. 375. 28 charts and 12 plates.